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ABSTRACT

This exploratory study developed instructional materials designed to maximize learning through individual and group interaction and used the materials to examine the effectiveness of a teleseminar approach for interactive distance presentations. In this teleseminar model, duplicate sets of overhead transparencies with overlays and other materials for a teacher training course were used at two venues (Monash University in Monash and Signadou College in Canberra) in a single-line Telecom connection. Detailed information was included on the overhead transparencies, and teacher trainees at Canberra were able to actively work through the material with the presenter at Monash. This arrangement allowed for continuous interaction with questions, answers, and discussion of relevant points being made throughout the presentation. Participant reactions as reported on a questionnaire completed at the end of the teleseminar were very positive, and the teleseminar model is advanced as an important consideration in the development of distance education. A copy of the assessment questionnaire is included, and references are provided. Copies of the 31 overhead transparencies used as the content for the teleconferencing seminar are appended. (Author/KM)

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RESEARCH REPORT

TELESEMINARS AND TEACHER EDUCATION

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1986

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TABLE OF CONTENTS

	PAGE
ABSTRACT	1
INTRODUCTION	2
REVIEW OF THE LITERATURE	3
METHOD	11
Design	11
Equipment	12
Instructional Materials	12
Procedure	16
ANALYSIS OF RESULTS	18
Signadou Questionnaire	18
SUMMARY AND CONCLUSION	28
REFERENCES	30
APPENDIX	32

ABSTRACT

Few studies on teleconferencing and education have concentrated on the development of instructional materials which are designed to maximize learning through individual and group interaction. In the teleseminar model presented by Edwards and Sofo, duplicate sets of overhead transparencies and other software materials relating to a teacher training course were used at both venues (Monash and Canberra) in a single-line Telecom connection. Detailed information was included on the overhead transparencies and the teacher trainees at Canberra were able to actively work through the material with the presenter at Monash. This arrangement allowed for continuous interaction with questions, answers and discussion of relevant points being made throughout the presentation.

Results of the teleseminar were very positive with the trainees expressing approval of the amount and nature of their involvement in the simulated classroom exercise. The teleseminar model, with its emphasis on the use of carefully prepared instructional materials designed to facilitate an effective learning experience, was advanced as an important consideration in the development of distance education programs.

INTRODUCTION

During the last several years there has been a rapid development in the area of telecommunications and telematics and the application of these to both business and education. Numerous research projects have reported the successful development and utilization of equipment for effective learning and communication exchanges. The focus has been on adapting hardware for efficient use.

More recently there has been a shift to developing hardware with a flexible facility for using not only voice and print but also graphics and motion. Some significant developments have occurred in this area which are outlined in the review of literature in the following section.

A need has been seen by the present researchers for developing carefully structured instructional programs for use with the existing hardware. The intention was to combine the use of audioconferencing equipment with accompanying structured visual input. By developing a carefully sequenced learning package which would allow for student input and interaction with the assistance of a convenor it was hoped that the presenter's concepts would be most effectively communicated.

The aim of the present project was to produce a model for the development of appropriate software with distance education hardware. Part of the expertise was to be provided by the Faculty of Education at Monash University which has engaged in research in this area. Signadou, a Dominican College of Advanced Education which offers courses to about 150 full-time preservice and about 200 inservice and external students also has been interested in exploring the efficient use of distance education hardware with the effective development of software. The

planning of a presentation was seen as a crucial step towards the effective execution of a learning session by a presenter to a group of teacher trainees with the assistance of a convenor. The model developed for this style of telecommunication termed "teleseminar" is outlined in the Method Section of this report.

REVIEW OF THE LITERATURE

In reviewing the literature on teleconferencing at the higher education level one finds that very little is focused on the actual instructional pieces of the communication. Emphasis has been largely directed towards understanding and mastering the use of the new technology developed or adapted for this purpose.

Many authors have recently pointed out the increased interest in the use of the Satellite Communication Network, the telephone and accompanying video/print materials for educational purposes (Dean and Hosie, 1985; Idle, 1984; Tinterow, 1984). In particular, the teleconferencing model is often cited as the most common and useful example of the use of communication technology to link people together over great distances. For example Gruebel (1982) outlined the vast demand by personnel in higher education centres wishing to experiment with teleconferencing as a replacement or supplement to the many face-to-face meetings which involve large investments of time and money for participant travel. The many advantages of the use of modern technology for communication purposes in both education and business have greatly influenced its use.

Before aspects of the application of various technologies for education are briefly reviewed some definitions of key concepts are presented to help clarify thinking in the area.

Telecommunication: This term encompasses "all transfers of information by electromagnetic means, including telephone, data, telegraph facilities and picture transfer facilities and services" (Booz, Allen and Hamilton, 1974, p.42).

The term is largely media oriented with three elements: voice, print and video.

Telematics: Refers to machine mediated instruction. It "combines computers and telecommunications" (Sheehan and McMinn, 1981).

Teleconferencing: The term is largely participant oriented and is a subset of telecommunications. Teleconferencing may occur by the use of various media: computer, telephone, television or a combination of these. Put simply it is the electronic linking of groups (e.g. Tinterow (1984) used this term interchangeably with audioconferencing).

Teleseminars: In this paper the term refers to the specific use of a carefully prepared instructional package delivered over a long distance via telecommunication systems.

Much of the recent work in the area of telematics and telecommunications outlines the pros and cons of the effectiveness of the type of media used. While some contradictory findings are evidenced, the interesting point is that there seems to be a general consensus on their advantages for instructional purposes.

Scollon (1981) noted some instructors' and students' difficulties with teleconferencing but emphasized the advantages, namely that a large number of participants can encourage a loose structure for interactive learning which would be more effective than the exchanges in a lecture hall and greater ease develops for instructors to monitor exchanges rather than control them where the role becomes more one of the facilitator of ideas rather than the source of knowledge. The use of this medium therefore requires a radical reconstruction of the teacher-student relationship. In this respect, McConnell (1982) stressed the need to develop interaction cues and to plan for discussion as well as encourage it. Penrose (1982) expressed this point succinctly:

...the need to humanize individuals, natural participation and interaction, careful planning for the presentation and effective feedback loops to encourage accuracy. (p.95)

Gruebel (1982) reported on effective teleconferencing for many administrative and instructional purposes such as idea generating, problem solving, information transfer and negotiation. It was estimated that in one year more than 66,000 travel miles and 14,000 work hours were saved by one institution. In the same year 1397 people participated in 170 meetings. McConnell (1982) also demonstrated that low costs, high speed of information transmission, access to a multitude of geographic locations and the accessibility of telephones are good reasons for communicating via telephone conferencing. According to

Gruebel (1982) limitations to teleconferencing are due only to one's initiative and imagination.

Tinterow (1984) developed and implemented an instructional program "TELENET", to provide career advancement training for respiratory therapy aids and technicians. The program included both traditional and non-traditional elements. The former consisted of the didactic position of the curriculum and the latter involved the mode of transmitting the instruction which was essentially a teleconferencing technique. Various problems were posed for further investigation and included the question of instructional quality, the role of the instructor and the difficulty of measuring the quality of instruction. Tinterow indicated the many benefits of TELENET especially in providing outreach educational opportunities enabling students to remain at home or in employment. He also stressed that to avoid declining enrolments one must progress with the era of high technology in higher education.

Many of the advantages ascribed to teleconferencing have been applied with similar force to computer-teleconferencing (Burke, 1980; Penrose, 1984; Quinn et al., 1985; Schroeder, 1981; Scollon, 1981). Various types of teleconferencing can make available a superior education which utilizes top experts in each field for those lacking time or opportunity to travel. Apart from reiterating that computer-teleconferencing allows for genuine communication between instructor and pupils, that is "on the spot dialogue", Cross (1983) also asserted that it conveys more precise and less pressured messages. According to his work only forty per cent of all business telephone calls are completed. He argued that this medium cultivates in students the ability to think and is ideal for discussing refinements or continuing education needs.

Accessibility of computers similar to telephone systems was also highlighted (Eldridge, 1982). Another researcher claimed that ninety per cent of tertiary institutions have computers and that fifty per cent were used for administration while the other fifty per cent were allocated for research and development, word processing and financial management. The need to access computers for educational purposes was indicated for both preservice and inservice training areas (Prince, 1983).

Penrose (1984) and Quinn et al. (1983) outlined the flexibility of computer conferencing which can combine word processing, electronic mail, time sharing, real-time and non-real time education for instructional purposes. Cross (1983) also stressed the extraordinary flexibility in overcoming geographical and time constraints. Burke (1980) summarized the many economies which can be achieved through microcomputer-enhanced communication in education and detailed two applications of the technology. One application was termed "computer-augmented brainstorming" where the authors of ideas are not obvious and so there is less tendency to operate politically or to be overly protective of one's own ideas. The second method, simply termed "computer conferencing", enables a variety of scientists or specialists to communicate simultaneously from their own working environments which may have added benefits.

The literature appears to promote computer teleconferencing over and above tele or audioconferencing. Sheehan and McMin (1981) have encapsulated this praise succinctly:

The microprocessor is as revolutionary as the wheel, the combustion engine and the light bulb because it has the potential to affect major changes in our quality of life.
(p.6)

Similarly Cross has captured the essence of computer-teleconferencing which has the potential to close the gap between learning and life (work/leisure) and between institution and job market.

Writing is the more personal form of communication, the one which permits the most natural expression of feeling. The message, once detached can cross time and space, acquiring objectivity, permanence and mobility. (Cross, 1983, p.1)

Dean and Hosie (1985), Grimwade (1981) and Shroeder (1981) have described computer aided instruction systems such as Plato and indicated a possible advantage of the format which is blind to many of the non-verbal elements of communication which may unfairly temper one's evaluation of source credibility.

A number of authors have been concerned with developing telecommunication systems to incorporate the use of graphics and video. McConnell's (1982) major concern was the lack of diagrammatic material other than pre-prepared graphics for students engaging in telephone tutorials. He described in detail the effective use of CYCLOPS, a system which provides an interactive graphics facility to tutor and students taking voice-only telephone tutorials. The specific advantages of this system are that it provides a

writing and drawing facility; can increase interactiveness by the use of a screen and offers an extra focus of attention by means of the compelling power of the screen. (McConnell, 1982, p.24)

Vesprani and Veatch (1980) in their very successful study provided supplemental print information to enhance the videotape presentations. An effective mix of media was crucial to maintaining efficient communication exchanges.

Penrose (1984) stressed the importance of the emergence of video-conferencing in spite of its expense. Such a system brings new demands of making a positive video impression which may also involve listening skills, word processing, statistics, the use of graphics and new information acquisition skills. Carl (1983) demonstrated that video-teleconferencing can be accepted and used by university staff to meet the needs of the community.

TELIDON, a commercially available videotext system was trialled by Sheehan and McMinn (1981). They reported that the system has superior imaging techniques for displaying charts, diagrams, cartoons and maps in multicolour graphic displays. Prince (1983) summarized the positive features of future uses of interactive videodiscs for lecture presentations and practice sessions in education.

It appears from a survey of the present literature that the major focus to date has been on developing the use of various types of technologies for effective distance education rather than developing effective software as well for use with the new media. Weerts (1983) for example, in describing telelectures, recommended the use of slides or pictures of the guest lecturer since "without pictures it can become a bit dry after a while" (p.58). This type of statement indicates the need for improved instructional planning. Similarly many other authors failed to shift their systematic attention from the media and technology to the actual instructional pieces and student characteristics.

However, several studies have highlighted the advantages of carefully planned instructional packages (Krauss, 1983; McConnell, 1982; The Deakin Gordon Projects, 1984; Tinterow, 1984). TELENET, for example, a program for teleconferencing, considers the learning styles of students, the effectiveness of specific teaching strategies and other factors important for efficient adult learning such as active student

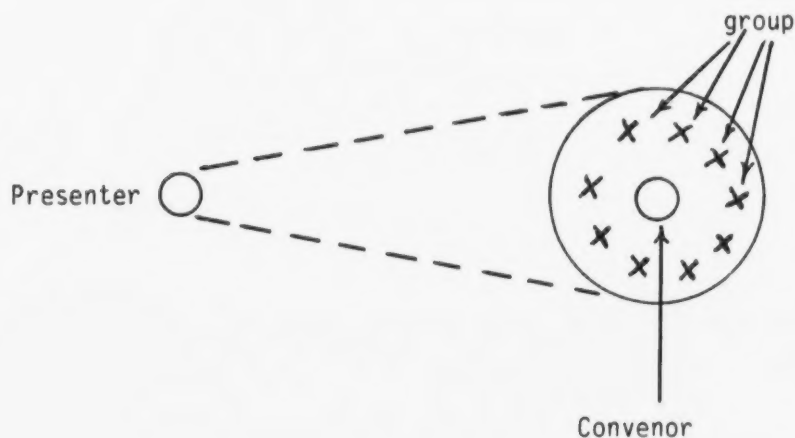
participation, provision of immediate feedback and note-taking guides. Some of the negative factors of this program reported by participants included the inability to see the instructor (20%); inadequate opportunity to interact with the instructor (20%); the instruction was too impersonal (34%); the instruction was ineffective, unstructured and disorganized (55%) (Tinterow, 1984). Because of the lack of immediate visual feedback the implementation of good teaching techniques and the adequate provision of effective instructional packages becomes imperative. The necessity of formulating effective instructional packages has become especially important, indicated by the development of CYCLOPS, interactive audiographics and T.V. equipment. In particular this project highlighted the advantages of careful planning and appropriately designed instruction.

The interest and focus of the present study is on the actual baseline material made readily available for any teacher to use in a teleseminar situation. In particular two major aspects are stressed. The first emphasizes the ready availability of resource persons whose expertise would otherwise not be readily available. The second component involves a carefully designed instructional package made suitable for telemedia processing which facilitates the transportation of the particular expertise into virtually any classroom or teaching situation. The approach developed in this study optimizes the use of carefully prepared instruction for interactive distance presentations.

METHOD

Design

A teleseminar model was used for the project. This involved a presenter at one location and a convenor plus small group at the receiving location as shown in the following diagram.



Presenter: Dr Peter Edwards (Monash University - Melbourne)
 Convenor: Dr Frank Sofo (Signadou College - Canberra)
 Group: Class of "Testing & Measurement in Education"
 (9 students)

The T.V. studio at the Faculty of Education, Monash University, was used for the teleseminar presentation. The room is sound-proofed and had Telecom and audio-visual facilities needed for the session.

The library at the Signadou College of Education was used as the setting for the teleseminar because it was adjacent to the incoming telephone line and was large enough to accommodate the class and equipment.

Equipment

Used at Monash University

1. A Telecom Digital Conference telephone.
2. A desk-top transparency viewer.

Used at Signadou College

1. The DUCT loudspeaker system comprising control unit, four paging microphones, and an extension loudspeaker. This system was developed by the Educational Technology Centre, Education Department, South Australia and was manufactured under licence by Werner Electronic Industries Pty Ltd at Kilkenny, South Australia.
2. An overhead projector and white screen.

Instructional Materials

The Edwards' Diagnostic Reading Test published by Thomas Nelson (Aust.) Pty Ltd in 1981 was used as the content material for the tele-seminar (see Appendix). This test consisted of a section for results and background information plus a series of reading and language sub-tests including the following:

COMMON WORD LIST: The 100 most frequent words in English prose materials are listed, in rank order, from top to bottom of each column. These words serve as the first test of a person's basic sight vocabulary.

QUICK WORD SCREEN TEST: A series of twelve graded word tests from pre-primer (P.P.) to grade ten (Form IV). Criteria for each level.

ORAL READING TESTS: Eight paragraphs with comprehension questions. score sheets for detailed observation of reading performance. Criteria for each reading level.

SILENT READING TESTS: Eight paragraphs with comprehension questions. Provision for unaided and aided recall, time taken, w.p.m., comprehension. Criteria for each reading level (same as oral reading).

LISTENING COMPREHENSION TEST: Tester to use more difficult passages from either oral or silent reading for this purpose. Criteria for each level.

VISUAL MEMORY (IDENTIFICATION): The reader is asked to circle a word on a sheet which is the same word as the one shown to him by the tester.

AUDITORY ANALYSIS: This test consists of the identification of beginning and ending sounds in words. The reader selects the correct word from a choice of three.

WORD ANALYSIS: A series of four sub-tests which deal with a knowledge of word parts and the ability of the reader to phonically analyze unknown words.

VISUAL MEMORY (WRITTEN): The reader is asked to write from memory a word that is shown to him for a short time.

PHONIC SPELLING: A list of multi-syllable words is dictated and the reader writes each word as it sounds. Any phonically correct spelling is accepted.

ORAL EXPRESSION: The reader is asked to give as many synonyms as possible for a list of commonly used words. The tester writes the words in the test booklet.

Thirty-one overhead transparencies involving the main aspects of the test were made using high-contrast, thermal film fitted to transparency mounts. The overheads were labelled and numbered consecutively from one to thirty-one (see Appendix).

The test was then administered to a fourteen year old boy student, Michael, and his responses were written on colored transparency film overlays which were hinged to the right-hand-side of the respective overheads.

Copies of the test were supplied to each member of the class at Signadou College and the convenor was given a copy of the test manual.

A sample of the test material together with the overlay is presented in Figure 1.

ORAL READING (4)

The Blue Whale

gr - grey *wh... (P)* *lar - largest* *alive*
 The / great / blue / whale / is / the / largest / living /
 animal / in / the / world. / It / can / grow / to / ~~a~~
~~length of~~ over / thirty-/-three / *me-me-me (P)* metres. / It / often /
as-w-weigh (P) weighs / as / much / as / one / hundred / cars. / When / a
 / whale / comes / to / the / *sur... ✓* surface / to / *play* ~~breathe~~ / it /
 blows / a stream / of / *s-sp-sp (P)* spray / into / the / air. /

Questions:

1. What colour is the great whale? (blue) *Um - grey and blue.*
2. To what length can it grow? (33 metres) *Um - 30 ft.*
3. How much can it weigh? (100 cars) *Um - they can weigh as many as 100 cars.*
4. What does a whale blow into the air? (spray) *Um - D/know.*
5. How do you know that the whale is bigger than an elephant? (largest living animal, weighs as much as 100 cars) *Um... it's bigger than 100 cars?*
6. What tells you that the whale is not a fish? (it is an animal, it comes to the surface to breathe) *Um - it's a mammal*
"In the story, Michael
Um - D/know.

Score: $3/6 = 50\% =$ Frustrated

Figure 1: Sample of Edwards' test with Student's Responses

A duplicate set of the overhead transparencies was used by the presenter at Monash University. In addition, a working script was developed which itemized each overhead and the accompanying commentary to be used during the presentation (Figure 2).

WORKING SCRIPT

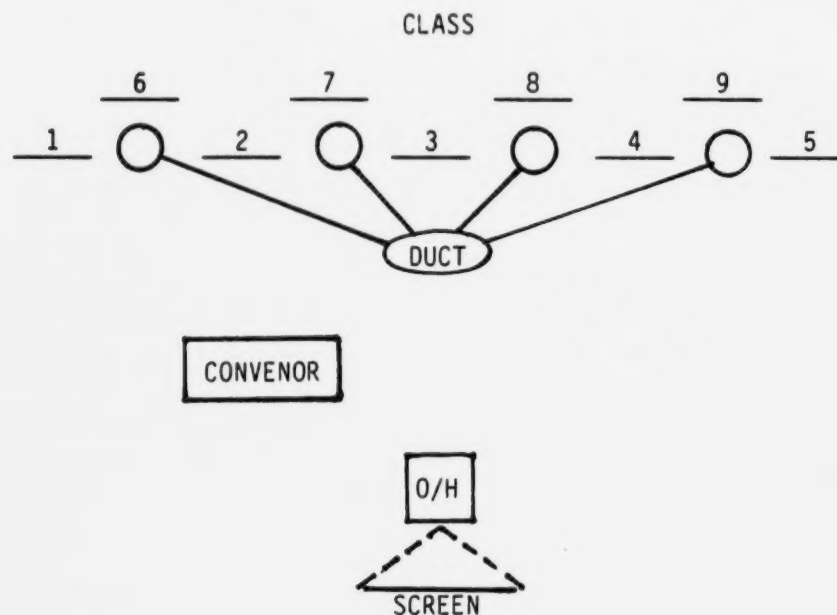
OVERHEAD #7				COMMENTARY (Dr Edwards)
<u>EDWARDS and SUMMERS WORD LIST</u>				
the	one	many	only	"The 100 Word List you now see on the overhead was developed by computer technology and represents 50% of everything we read in print.
of	not	so	no	
and	can	each	must	The main difficulties with teaching these words include the following:
a	your	two	water	
to	they	about	also	. few concrete nouns . phonically irregular . monosyllabic.
in	we	should	first	
is	his	what	very	A good teaching strategy is to combine some of the words into meaningful phrases or sentences by adding other known words, e.g., I have a new <u>football</u> .
that	will	than	very	
it	if	been	him	Note: Michael made thirteen errors. Any comments?"
are	an	into	same	
for	when	them	could	
you	all	use	who	
be	but	make	any	
as	these	do	because	
or	may	up	see	
with	there	such	like	
on	has	then	much	
this	I	time	people	
by	other	its	called	
was	some	would	place	
he	more	how	through	
from	were	number	work	
have	had	made	new	
at	their	out	small	
which	used	most	over	

The 100 most frequent word types listed above, accounted for nearly 50% of the 250,000 token words used in the study.

Figure 2: Working Script showing overhead transparency being used and accompanying commentary

Procedure

Prior to the teleseminar, the presenter and the convenor had discussed the sequence of events to be followed, the allocation of time to each stage of the presentation, and a seating plan of the students as illustrated in the following diagram.



At a pre-arranged time on the day of the teleseminar, a telephone call was made from Signadou College to Monash University and the presentation commenced.

After the convenor and the students had been welcomed and introduced, the results of the reading test administered to Michael were presented on overhead transparencies to the students and discussed. Students' questions were facilitated by the convenor stating that, "(student's name) has a question". This arrangement was necessary, not only for the smooth running of the seminar, but also because with a one-line telephone connection, the presenter using a Digital Conference

telephone takes precedence over other speakers who cannot be heard when the presenter is talking. To overcome this problem, the presenter would pause at regular intervals to allow the convenor to pose a question or make a comment.

The teleseminar lasted for approximately fifty-five minutes. During that time, the relevant overhead transparencies dealing with the test situation were shown and numerous questions were asked by the students and discussed. (The complete teleseminar session is recorded on 1/2" VHS video tape and is available at the Faculty of Education, Monash University, and Signadou College, Canberra.)

At the end of the teleseminar, the students at Signadou College completed a questionnaire designed to assess their evaluation of the activity.

ANALYSIS OF RESULTS

Signadou Questionnaire

QUESTION 1

Was the preparation adequate for the teleseminar lecture?

RESULTS

YES: 9

NO: 0

REPRESENTATIVE COMMENTS

"Seats could have possibly been placed around a table".

"Appreciated background information about the teleseminar being given in advance".

"Everything was well organized".

"Handouts and overheads were clear".

DISCUSSION

A round-table seating plan would facilitate ease of communication among the students and the convenor. This could be organized using a 'horseshoe' arrangement with the overhead projector placed at the open end of the 'horseshoe'.

QUESTION 2

Please give your opinion on the following aspects of this section.

RESULTS

	Very suitable	Moderately suitable	Not very suitable
	3	2	1
(a) The theme selected for this session	9		
(b) The stated objectives for this session	9		
(c) The panel members for this session	9		

REPRESENTATIVE COMMENTS

"It was great to listen to the author of the test".

"A good end to the course".

"Well done!"

DISCUSSION

Students were very pleased with these aspects of the teleseminar.

QUESTION 3

Please give your opinion on the following aspects of your group's preliminary organisation for this session:

RESULTS

	Very satis- factory	Moderately satis- factory	Not very satis- factory
	3	2	1
(a) The group's Leader for this session	7	2	
(b) The process of formulating questions to be asked during the teleseminar	6	3	
(c) The arrangements for group representatives to speak during the teleseminar	7	2	
(d) The physical arrangement for participation and comfort	4	5	

REPRESENTATIVE COMMENTS

"With different seating arrangements it may have felt more like a group activity".

"Felt like I knew the speaker".

"Conversation well organized".

"Liked the informal arrangement - easy to speak".

"I didn't feel comfortable enough to ask questions".

"Sitting behind the overhead was irritating".

DISCUSSION

A better seating arrangement discussed in Question 1 would overcome some of the difficulties raised by the students as would practice in asking questions in this novel type of class presentation.

QUESTION 4

Please give your opinion on the following aspects of the performance of the teleseminar convenor for this session:

RESULTS

	Very Good	Fair	Not very Good
	3	2	1
(a) Getting the teleseminar started	9		
(b) Calling speakers in	8	1	
(c) Cutting speakers off	9		
(d) Helping a speaker make a point	8	1	
(e) Summing up at appropriate times	8	1	
(f) Remaining unobtrusively in control	9		

DISCUSSION

Students generally felt that the convenor managed the class situation efficiently. One student would have liked more personal attention during the session.

QUESTION 5

Please give your opinion on the following aspects of the contribution of the presenter for this session:

RESULTS

	Very Good	Fair	Not very Good
	3	2	1
(a) His knowledge and expertise in the area	9		
(b) Speaking directly to the point at issue	9		
(c) Getting his message across to their audience	9		
(d) Promoting a sense of community in his audience	8	1	

REPRESENTATIVE COMMENTS

"Knowing our names and where we were sitting made it more personal and relaxed".

"He explained things really well".

"He obviously knew what he was talking about".

DISCUSSION

Students were happy with the presentation of the teleseminar although one student would have preferred more interaction among the participants.

QUESTION 6

Please give your opinion on each of the following technical aspects of this session:

RESULTS

	Very Good	Fair	Not very Good
	3	2	1
(a) Quality of the reception (static free, etc.)	8	1	
(b) Audibility of the speaker	9		
(c) Simplicity of operating the microphones	9		

REPRESENTATIVE COMMENTS

"Excellent in all aspects".

"Had to get used to it - overhead was distracting".

"Once I became used to the microphone it was easier to listen to and understand the content".

DISCUSSION

The DUCT system should be positioned on a firm surface (e.g. table top) for maximum performance. At the outset of the session the DUCT system was on a chair and the volume was muffled.

QUESTION 7

Given that this hour of teleseminar cost about \$30, which ONE of the following courses of action would you recommend?

RESULTS

(a) Repeat the session AS IS with another group of students?	7
(b) Repeat the session WITH MINOR CHANGES with another group of students?	2
(c) Repeat the session WITH MAJOR CHANGES with another group of students?	0
(d) Do not repeat the session because the money could be put to better use.	0
(e) Do not repeat the session because it was too much of a flop.	0

REPRESENTATIVE COMMENTS

"Congratulations - we'll go visual next time!"

"I found it really valuable".

"I really got a lot out of this session".

"Very effective, interesting and useful".

DISCUSSION

There was enthusiasm for using the teleseminar format with other students. The minor changes suggested refer to comments made in Question 1 and 3.

QUESTION 8

The length of a teleseminar can be varied. Which of the following would you vote for?

RESULTS

One session of one hour in length	<u>9</u>
OR	
Two half-hour sessions some days apart	<u>0</u>
OR	
Some other arrangement (Please explain):	<u>0</u>

REPRESENTATIVE COMMENTS

"Length of seminar was fine".

"The hour just flew"..

"Keep as it is".

DISCUSSION

A one-hour session was considered ideal by the students. This arrangement will usually fit in to a course timetable and appears adequate for the type of teleseminar discussed in this paper.

QUESTION 9

How did the lack of visual communication affect you?

REPRESENTATIVE COMMENTS

"Not much".

"I quite enjoyed the experience".

"Not at all".

DISCUSSION

A photograph of the presenter was shown to the group before the teleseminar started to help overcome the absence of visual contact. The students commented favourably on this procedure.

QUESTION 10

Do you feel this was a useful learning situation?

RESULTS

YES: 9

NO: 0

REPRESENTATIVE COMMENTS

"Brilliant idea - a very useful exercise".

"Very practical".

"The excellent organization made what could have been only auditory learning, visual as well".

"Enjoyable and beneficial".

DISCUSSION

A most important outcome of the teleseminar was that the students felt it had been a worthwhile and enjoyable learning experience.

SUMMARY AND CONCLUSION

The research report has outlined the exploratory study by Edwards and Sofo in developing the use of instructional materials for use in teleseminars. It was noted in the literature review that the focus of the majority of studies was in developing and mastering the use of new equipment for communication purposes in distance education. More recent reports have explored the use of satellite networks, the telephone, and accompanying print (computer) and video equipment for telecommunication in both business and educational spheres.

It was noted that few articles dealt with the actual instructional pieces of the communication, the learning styles of students and other factors important for maximum adult learning. Some projects highlighted the advantages of carefully designed instructional packages and the importance of considering factors for formulating effective instruction.

The present research reports on the carefully planned approach by Edwards and Sofo which highlights the inclusion of specifically prepared materials to meet the learning needs of a particular group of students by the use of a teleseminar method.

The teleseminar model adopted for the project involved a presenter located at Monash University and a convenor located at Signadou College of Education with a class of students enrolled in a "Testing and Measurement in Education" course.

The instructional materials consisted of a set of sequenced overhead transparencies and overlays on the topic of testing in education. Both presenter and convenor used an identical set of the materials. The presenter however had a working script. Class members

were also supplied with a copy of the test and the Convenor with a copy of the test manual.

The results of the teleseminar were largely positive. The routine adopted by the presenter and convenor to allow for interaction, comments and questions, appeared very successful. The convenor simply called the presenter ("Peter") and then stated the requirements (e.g., "Therese has a question for you"). It may have helped the convenor to also have a copy of the working script used by the presenter before the actual teleseminar to be better prepared for possible questions and areas worthy of further exploration during the actual presentation.

Students' responses to the teleseminar were also largely very encouraging especially in relation to the instructional materials and preparation of the actual session. Students suggested that consideration be given to a differently arranged environment which would facilitate face-to-face interaction among themselves and encourage further questioning or comments. A round-table seating plan would facilitate this. Overall, students were enthusiastic about the teleseminar and participated profitably.

The main conclusion of the report suggests that careful attention to instruction design before a teleseminar will facilitate an efficient and worthwhile learning experience for students and others involved.

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APPENDIX

EDWARDS DIAGNOSTIC READING TEST

© 1976, 1977, 1982

Peter Edwards, Faculty of Education, Monash University.

NAME _____ PARENTS _____

ADDRESS _____

SCHOOL _____

GRADE/FORM _____

DATE OF TEST _____
year month day

EXAMINER _____

DATE OF BIRTH _____

AGE _____

POSITION _____

Additional copies of this test can be obtained from
Educational suppliers, Thomas Nelson (Aust.) Ltd.,
or the author.

SUMMARYCOMPREHENSIONWORD KNOWLEDGE

			SCORE	%	COMMENTS
ORAL RDG	_____ %	ACCURACY	_____	_____	_____
LEVEL	_____	VISUAL MEMORY			_____
COMMENTS	_____	(identification/ written)	_____	_____	_____
SILENT RDG	_____ %	AUDITORY ANALYSIS	_____	_____	_____
LEVEL	_____				_____
COMMENTS	_____	ANALYSIS			
		(a) blends & digraphs	_____	_____	_____
LISTENING	_____ %				_____
LEVEL	_____	(b) Phonograms	_____	_____	_____
COMMENTS	_____				_____
		PHONIC SPELLING	_____	_____	_____

INTEREST INVENTORY

A. When you have an hour or two to do as you please, what three things do you like best to do?

1. _____
2. _____
3. _____

B. What do you do after school?

C. What do you do in the evening?

D. What do you do on weekends?

E. What games do you like to play?

F. What do you like to make?

G. Do you have any pets? (What are they?)

H. Do you have any hobbies?

I. What are your favourite T.V. programs?

J. What do you like to read?

BACKGROUND INFORMATIONSCHOOL (Source: Mother, Father, etc.).

Beginning age	_____	Reading difficulty started	_____
First Grade absences	_____	Remedial teachers	_____
Recent Absences	_____	Methods used	_____
Teacher interviews	_____	Child's attitudes	_____
Schools attended	_____	Child's behaviour	_____
		Handedness	_____

Other comments _____

MEDICAL (Source: _____).

Eyes examined: _____ by _____ date: _____

Results: _____

Hearing tested: _____ by _____ date: _____

Results: _____

Motor Skills: _____ by _____ date: _____

Results: _____

Other Comments _____

HOME (Source: _____).

Parents' occupations: _____

Siblings: _____	Girls _____	School level _____
	Boys _____	School level _____

Child's behaviour: _____

Emotional reactions: _____

Special interests: _____

Previous tutoring: _____

Other Comments: _____

RECOMMENDATIONS

(Classroom - small group - individual - clinic)

1. Level of reading materials (a) Oral: _____
(b) Silent: _____
2. Type of reading materials (interest, etc:) _____

3. Sight vocabulary work: _____
4. Word analysis work: _____
5. Comprehension work (a) Oral: _____
(b) Silent: _____
(c) Listening: _____
6. Instructional materials: _____

Comments: _____

EDWARDS & SUMMERS WORD LIST

the	one	many	only
of	not	so	no
and	can	each	must
a	your	two	water
to	they	about	also
in	we	should	first
is	his	what	very
that	will	than	good
it	if	been	him
are	an	into	same
for	when	them	could
you	all	use	who
be	but	make	any
as	these	do	because
or	may	up	see
with	there	such	like
on	has	then	much
this	I	time	people
by	other	its	called
was	some	would	place
he	more	how	through
from	were	number	work
have	had	made	new
at	their	out	small
which	used	most	over

The 100 most frequent word types listed above, accounted for nearly 50% of the 250,000 word tokens used in the study.

Edwards Quick Word Reading Test

PP	P	I	II
at	and	one	book
me	on	not	when
the	mother	can	year
it	see	we	today
I	my	look	people
is	just	baby	tree
go	not	little	picture
to	up	will	other
has	this	his	still
in	back	school	town
III	IV	V	VI
city	future	amazed	foreign
wild	number	develop	original
two	water	grim	orchestra
frighten	decide	splendid	pyramid
direction	accept	croak	verandah
dream	event	improve	routine
several	fate	witness	bridge
animals	warrior	million	apparatus
attack	soul	shallow	myth
many	convoy	recent	opportunity
VII	VIII	IX	X
abolish	account	molecule	linear
deprived	limitation	rational	miscellaneous
visible	combustion	statistics	amnesty
register	antique	patron	synonym
impetuous	language	inventive	legality
savage	conscience	oblivion	exonerate
astonished	intrigue	vulnerable	terrestrial
daunted	preliminary	psalm	cylindrical
prey	migration	conservatism	preferential
university	binocular	forum	gratuitous

Scoring: One error = independent
 Two errors = instructional
 Three errors = frustration
 or more

Child: _____ Tested by: _____
 Reading Level: 41 Date: _____

READING : USING THE INFORMAL READING INVENTORY

Dr. Peter Edwards

As the child reads, record all errors and comments (as inconspicuously as possible) in a meaningful way. A suggested coding system is outlined below:

<u>Error</u>	<u>Symbol</u>	<u>Explanation</u>
Word by word reading or incorrect phrasing	///	Place a slash mark where the child pauses
Unable to pronounce	(P) <i>dangerous</i>	The 'P' signifies that the word was pronounced for the child (after 5 seconds)
Omission	<i>let go</i>	Draw a circle around words omitted
Correction	✓	Place wherever a student corrects himself
Insertion	^	Write in whatever the reader uses
Substitution	<i>saw</i> ~~<i>does</i>~~	Cross out actual word and write above the word substituted
Repetition	~~~~~	Place under the word/words repeated
Ignores punctuation	X	Place a cross over punctuation mark ignored.

ORAL READING (1)The Kitten

Mother found a little, white kitten.
It had a small, black mark. Mother
told father about the kitten. They
said they would call it Spotty. (25)

1. Who found something? (Mother)
2. What did she find? (A Kitten)
3. What colour was it? (White)
4. What did they call it? (Spotty) (4)

Farm Life (2)

Tom was a boy who lived on a farm. He liked to help his father milk the cows and care for the horses. One day, Tom and his father went for a ride in a horse and cart. They visited their friends who lived on a farm not far away. (50)

1. Where did Tom live? (farm)
2. What did Tom like to care for? (horses)
3. Where did Tom and his father go? (visit friends)
4. What did they travel in? (horse and cart)
5. Where did their friends live? (farm) (5)

Animals and Their Food (3)

All living creatures must eat food to live. The earthworm eats soil as it moves under the ground and from the soil it gets food.

Most birds eat seeds and insects. Their beaks are shaped to eat these types of food. Some animals eat plants and some eat other animals. (50)

1. What do all animals need to live? (food)
2. Where does the earthworm get its food? (soil)
3. What do most birds eat? (seeds and insects)
4. What do animals eat? (plants and animals) (6)

The Blue Whale (4)

The great, blue whale is the largest living animal in the world. It can grow to a length of over thirty-three metres. It often weighs as much as one hundred cars. When a whale comes to the surface to breathe it blows a stream of spray into the air. (50)

1. What colour is the great whale? (blue)
2. To what length can they grow? (33 metres)
3. How much can they weigh? (100 cars)
4. What does a whale blow into the air? (spray)
5. How do you know that the whale is bigger than an elephant? (largest living animal, weighs as much as 100 cars)
6. What tells you that the whale is not a fish? (it is an animal, it comes to the surface to breathe)

The Escape (5)

Ken shone the torch ahead of him in the tunnel and called softly to John. He did not want to call loudly, for the sentry above him may hear and sound the alarm.

When Ken reached the end of the tunnel he saw John putting the sand into several buckets. The two men quickly dug through the remaining two feet of sand. Soon they were free! (66)

1. What part of the tunnel was Ken in? (the end)
2. What was the name of the man with Ken? (John)
3. How thick was the end part of the tunnel? (2 feet)
4. What type of material was the tunnel dug through? (sand)
5. How was Ken able to see in the tunnel? (torch)
6. Why did the men have to be quiet? (They were escaping;
the sentry)

(6)

The Big Match (6)

The two tennis players faced each other on the court. Lance, the big youngster from Australia won the toss and said he would serve first.

His first service thundered down and his young, much smaller American opponent, Mike, lunged quickly at the ball. After a long rally Lance won the point and went on to take the first set. However, Mike fought back and won set two.

Everything was ready for an exciting end to the match but in the third set Mike fell heavily and the game had to be postponed. The large crowd wondered who would finally win. (100)

1. What country was Lance from? (Australia)
2. What was the American player's name? (Mike)
3. Why was Lance allowed to serve first? (won the toss)
4. How do you know that Lance had a fast service?
(thundered down; lunged quickly)
5. Who won the second set? (Mike)
6. How do you know that Lance was the bigger of the two players? (much smaller opponent)
7. Why was the match postponed? (Mike fell heavily)
8. What did the crowd think? (wondered who would win) (8)

Meteors (7)

Millions of meteors, ranging in size from specks of dust to huge masses of rock, travel through space. On a clear night you will often see a meteor moving through the sky.

Very rarely, a great meteor crashes into the earth. When this happens it is called a meteorite or a "fireball". In 1908 a great meteor fell on Siberia and exploded with a roar that could be heard for many miles. Trees were destroyed and over a thousand reindeer were killed.

Luckily this does not occur often because most meteors burn up in the atmosphere that surrounds the earth's surface. (100)

1. How do you know that there are many meteors in space?
(millions of them)
2. How small are some meteors? (speck of dust)
3. What is a meteorite? (a meteor that has landed on the Earth)
4. What is another name for a meteorite? ("fireball")
5. What happened in Siberia in 1908? (meteor struck)
6. How do you know that it was a large explosion?
(roar was heard many miles away)
7. How many reindeer were killed? (over 1000)
8. Why don't many meteors hit the earth's surface?
(they burn up in the atmosphere)

(8)

The Roman Empire & Christianity (8)

The Roman Empire had a great effect on the development of civilization in Western Europe. Many of the tribes who were conquered by the Roman legions adopted their customs and laws. In particular, the Christian religion grew in importance throughout Western Europe.

Christianity had been adopted by the Romans in the fourth century when their Emperor became a Christian and gave freedom of religion to all Christians in the Roman Empire. By the end of the century, Christianity was the only legal religion in the Empire and it continued to flourish even when the great Roman Empire began to fall. (100)

1. What did the Roman Empire help develop in Western Europe? (civilization)
2. Who adopted Roman customs and laws? (many tribes)
3. What religion did the Romans bring with them? (Christianity)
4. When did the Romans adopt Christianity. (4th Century)
5. Who gave religious freedom to all Christians? (emperor)
6. What does "Christianity was the only legal religion" mean? (Allowed by the Romans)
7. What does "the Roman Empire began to fall" mean? (began to decline in power)
8. What is the passage mainly about? (Roman Empire and Christianity)

WORD ERRORS : _____ COMPREHENSION: _____ % (Ind; Instr; Frust)
 GRAPHO-PHONIC: _____ TIME : _____
 SYNTACTIC : _____
 SEMANTIC : _____

Word Attack

Words told _____ Substituted _____ Omitted _____
 Inserted _____ Incomplete _____ (Reversals _____)
 Repeated _____ Hesitated _____

Sounds aloud: _____

Word Errors : Function _____ Content _____
 Beginning _____ Middle _____ End _____

Vowels: Short _____ Long _____

Blends _____ Digraphs _____ Phonograms _____

Word x Word _____ (pointing?)

Punct. ignored _____

Tone Flat _____

Voice: High. Low. Strained.

Head movement _____

Phrasing: Good. Fair. Poor.

Concentration: Good. Fair. Poor.

Comments:

SILENT READING (1)The Bird

Daddy gave David a little bird. It was a present for Christmas. The bird was yellow. It lived in a big cage inside the house. (25)

1. What was David given? (bird)
2. When did he get it? (Christmas)
3. What color was it? (yellow)
4. Where was the cage? (inside the house)

Time _____ W.P.M. _____ Comprehension _____

Unaided recall _____ Aided recall _____

FLUFFY (2)

Fluffy was a white cat that liked to sleep by the fire. Sometimes she would chase a ball of wool around the room.

Fluffy would run away if she heard a dog barking.

(33)

1. What was the cat's name? (Fluffy)
2. What colour was the cat? (White)
3. Where did she like to sleep? (by the fire)
4. What did she chase around the room? (ball of wool)
5. When would she run away?
(When she heard a dog barking)

Time _____ w.p.m. _____ Comprehension _____

Unaided recall _____ Aided recall _____

Camping (3)

Philip loved to go camping by the river with his father every Christmas. They would swim and fish during the day, and at night they would build a large fire and cook the fish they had caught. Sometimes they would sit around the camp-fire and tell stories or sing. (50)

1. What did Philip love to do? (go camping with his father)
2. Where did they go? (by the river)
3. When would they go? (Christmas)
4. What did they cook? (fish)
5. Where did they talk and sing? (around the camp-fire)

Time _____ w.p.m. _____ Comprehension _____

Unaided recall _____ Aided recall _____

The Birthday (4)

Jill was glad when she heard that her grandparents were coming to visit her for her ninth birthday. She wondered what present they would bring her. At last the day arrived and Jill ran to meet them both at the front gate. Soon she was putting on her red dress. Jill felt like a model as she proudly wore the new dress for the first time.

(66)

1. What was the girl's name? (Jill)
2. How old was she on her birthday? (9)
3. How many people came to visit her? (2)
4. What did they bring her? (a new dress)
5. What did she feel like? (a model)
6. How do you know that her grandparents did not live with her? (they visited her)

Time _____ w.p.m. _____ Comprehension _____

Unaided recall _____ Aided recall _____

The Eagle (5)

Flair was a very powerful eagle that lived high on the side of a mountain. His talons were very sharp and he knew how to use them. Just the same, Flair did not get everything his own way. One day he swooped down towards a little lamb lying on the green grass. "Baa" bleated its mother from a few yards away. The shepherd was quick to hear and fired his shot-gun. Flair decided that it would be much safer to leave and flew off to find another farm where the lambs were not protected by shepherds with shot-guns.

1. What was the name of the eagle? (Flair)
2. Where did he live? (side of a mountain)
3. What was he going to do to the lamb? (eat it)
4. What did the shepherd do? (fired his shot-gun)
5. Where did the eagle go? (to another farm)
6. What does "he did not get everything his own way" mean? (He didn't always win)

Time _____ w.p.m. _____ Comprehension _____

Unaided recall _____ Aided recall _____

The Discovery (6)

The next weeks were very busy. Shafts were sunk at the points already chosen and soon the men began to find broken pottery, painted bricks and pieces of sculpture. Deeper and deeper went the holes and on and on they went towards the line set for them by the authorities. Everybody sensed they were about to make an important discovery but still they could not claim that they had found a palace. Then one warm March day the foreman gave a loud shout, his voice full of emotion. "Come quickly; see what I have found! Our dreams have come true!"

(100)

1. What were they looking for? (palace)
2. What description of bricks is given? (painted)
3. When did they make their discovery? (March)
4. Who made the great discovery? (the foreman)
5. What do you learn about the shafts? (they were deep)
6. What does "his voice full of emotion" mean?
(he was very excited)

Time _____ W.P.M. _____ Comprehension _____

Unaided recall _____ Aided recall _____

The Fire (7)

The three children were hot and tired. It had been exciting at first for who would not want to take part in fighting a roaring forest fire. But as the day went on and the night set in somehow the excitement had gone. Now they were exhausted but the fire raged on like a relentless enemy and it seemed to have limitless reserves of energy. Not only that, but it also seemed to be mocking the foolish humans who seemed to think that they could quench its fury with a few buckets of water. But then down came the rain!

1. How many children were fighting the fire? (3)
2. What were they using to fight the fire? (buckets of water)
3. Where was the fire taking place? (forest)
4. How did the children feel at first? (excited)
5. How did the children feel by nightfall? (exhausted)
6. Why is the fire described as "a relentless enemy"?
(it would not stop)
7. What does "quench its fury" mean? (satisfy it, stop it - put it out)
8. What happened to help the children? (it started to rain)

Time _____ w.p.m. _____ Comprehension _____

Unaided recall _____ Aided recall _____

Antarctica (8)

The continent of Antarctica is situated in the far south of the earth's surface. It covers an area that is almost twice the size of Australia. The temperature is always very low and one result is that rain is almost unknown. Even in the summer months the temperature is usually below freezing point and moisture freezes before it reaches the ground. Heavy snowfalls occur all year and the layers of thick snow are compressed into ice. This leads to the formation of a huge ice-sheet which supplies the raw material for icebergs that float off into the Southern Ocean. (100)

1. Where is Antarctica situated? (in the far south of the earth's surface)
2. How large is Antarctica? (twice the size of Australia)
3. What is the temperature like? (usually below freezing)
4. What does "rain is almost unknown" mean? (it rarely rains)
5. How is the ice-sheet formed? (compressed layers of snow)
6. When do the snowfalls occur? (all year)
7. Where do the icebergs go? (Southern Ocean)
8. What does "supplies the raw material for icebergs" mean? (icebergs are produced from it)

Time _____ W.P.M. _____ Comprehension _____

Unaided recall _____ Aided Recall _____

LETTER NAMED AND SOUNDSNAMING LETTERS (lower case)

t s m c a w i j d p o l x
n e k v g r h u z q b y f

NAME LETTERS (UPPER CASE)

D J F H S G W O M B L T C
A V K N E Y R I P X Q Z U

GIVING LETTER SOUNDS

(Use either list above and record the errors).

Errors: _____

VISUAL MEMORY

Identification

Ask the reader to draw a circle around
the word that is shown. Allow 2-3
seconds of exposure. (See Manual)

Practice. is not into see nil

- | | | | | | |
|-----|---------|-----------|----------|----------|-----------|
| 1. | sip | if | it | so | is |
| 2. | in | nip | not | or | ink |
| 3. | ton | too | one | not | nothing |
| 4. | as | see | ask | saw | send |
| 5. | will | went | while | wash | lift |
| 6. | can | acid | card | nab | account |
| 7. | picture | paint | part | faint | start |
| 8. | when | which | chew | church | few |
| 9. | stated | tastes | mates | station | started |
| 10. | confirm | confirmed | confirms | confined | contained |

AUDITORY ANALYSIS

- A. Beginning sounds. Ask the reader to draw a circle around the word that begins with the same sound as the word given. (See Manual)

Practice:	amber	middle	faith
1.	regular	dominion	telephone
2.	choice	binocular	straight
3.	diamond	pretext	sprightly
4.	wisdom	igloo	thistle
5.	opposite	escaped	shrug

- B. Ending sounds. Ask the reader to draw a circle around the word that ends with the same sound as the word given. (See Manual)

Practice:	nuclear	widen	realize
1.	inept	delusion	unless
2.	lonely	mission	grimaced
3.	splendid	capitalism	escape
4.	silently	develop	enumerate
5.	certainly	functional	frighten

Score: A _____ B _____ TOTAL _____

WORD ANALYSIS

(Blends, digraphs, phonograms)

Give the reader one attempt at each word in the first column. Record errors alongside and place total for each column in the space below.

Ex. dwit	dw	it	dwit
1. stace	st	ace	stace
2. chell	ch	ell	chell
3. thoon	th	oon	thoon
4. plam	pl	am	plam
5. skoad	sk	oad	skoad
6. drail	dr	ail	drail
7. troke	tr	oke	troke
8. crark	cr	ark	crark
9. frunch	fr	unch	frunch
10. smEEP	sm	eep	smEEP
11. whock	wh	ock	whock
12. twilight	tw	ight	twilight
13. flob	fl	ob	flob
14. shint	sh	int	shint
15. swump	sw	ump	swump
16. grar	gr	ar	grar
17. speam	sp	eam	speam
18. bline	bl	ine	bline
19. slaint	sl	aint	slaint
20. glung	gl	ung	glung
21. breck	br	eck	breck
22. wrop	wr	op	wrop
23. clig	cl	ig	clig
24. prold	pr	old	prold

Errors: _____

Number attempted. _____

VISUAL MEMORYWritten.

Ask the reader to write the word that is shown (2-3 seconds). Use any of the words from the list in the Manual.

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

PHONIC SPELLING

(Use List VIII from the Quick Word Reading Test in the front of the booklet).

WORDS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

ORAL EXPRESSION

Give as many synonyms as possible for each of the words below:

1. good _____
2. bad _____
3. pretty _____
4. ugly _____
5. big _____
6. small _____
7. happy _____
8. sad _____
9. hot _____
10. cold _____